What is claimed is:

- 1. A transmission circuit characterized by
- 2 comprising:
- first and second amplification means (1, 2)
- 4 for independently amplifying input signals in different
- 5 transmission frequency bands, said first amplification
- 6 means (1) in an ON state producing an unnecessary
- 7 radiant wave in a frequency band substantially
- 8 coinciding with a transmission frequency band of said
- 9 second amplification means (2) in an OFF state;
- 10 first filter means (4) for extracting a
- 11 component in the same frequency band as that of an
- 12 unnecessary radiant wave leaking out from said second
- 13 amplification means during operation of said first
- 14 amplification means;
- phase adjusting means (5) for adjusting a
- 16 phase of an output signal from said first filter means
- 17 such that the phase of the output signal from said first
- 18 filter means becomes opposite to that of an unnecessary
- 19 radiant wave in an output signal from said first
- 20 amplification means; and
- signal combining means (6) for combining an
- 22 output signal from said phase adjusting means with the
- 23 output signal from said first amplification means.
 - 2. A circuit according to claim 1, further

- 3 demultiplexing means for demultiplexing the
- 4 output signal from said second amplification means to
- 5 output a first signal to be supplied to said first
- 6 filter means and a second signal;
- 7 second filter means for extracting a desired
- 8 signal from the second signal output from said
- 9 demultiplexing means; and
- 10 output means for selectively outputting one of
- 11 the output signals from said signal combining means and
- 12 said second filter means.
 - 3. A circuit according to claim 1, wherein
- 2 said first filter means comprises a bandpass
- 3 filter, and
- 4 second filter means comprises a low-pass
- 5 filter.
 - 4. An unnecessary radiant wave suppression method
- 2 comprising the steps of:
- 3 setting transmission frequency bands for a
- 4 first amplifier and a second amplifier such that a
- 5 frequency band of an unnecessary radiant wave produced
- 6 by the first amplifier in an ON state substantially
- 7 coincides with a transmission frequency band of the
- 8 second amplifier in an OFF state;
- 9 extracting a component in the same frequency
- 10 band as that of an unnecessary radiant wave leaking out

- 11 from the second amplifier during operation of the first
- 12 amplifier;
- adjusting a phase of the extracted signal
- 14 component such that the phase becomes opposite to a
- 15 phase of an unnecessary radiant wave in an output signal
- 16 from the first amplifier; and
- combining the phase-adjusted signal with the
- 18 output signal from the first amplifier.
 - 5. A method according to claim 4, further
 - 2 comprising the step of extracting a desired signal wave
 - 3 from a demultiplexed output signal from the second
 - 4 amplifier during operation of the second amplifier.